APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,735	12/16/2004	Thomas Busse	884A.0063.U1(US)	1332

29683   7590   03/11/2008
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ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
03/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *28 December 2007*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-6,8-16,18-20 and 22-29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-6,8-16,18-20 and 22-29* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 12/28/2007 have been fully considered but they are not

persuasive.

Regarding rejection on claim 1, applicant argued that Barrus et al. do not disclose the exit from

the first mode occurs before discrimination of the user input because there is no support on the

keyboard ha to wake up first to operate and to discriminate user's input at keystroke completion.

In response to applicant's argument, the Examiner does not agree. As noticed by

applicant, Barrus et al. disclose "Usually, during normal operation, **the microcontroller 230** will

be **in a low power "sleep" mode** until **interrupted by a keystroke signal** from the keyboard

interface circuit 290. **In response, the microcontroller 230 "wakes up"** and **scans the**

keyboard matrix 340 to determine which key was pressed…" The invention of Barrus et al.

is a computerized keyboard (10 of Figs. 1-2 and Fig. 4). And microcontroller is part of the

keyboard. Based on the citation, the microcontroller of the keyboard's sleep mode is interrupted

by a keystroke signal (a user input, output of OR gate 350 of Fig. 4, where obviously no key

needs to be determined as long as one of the keys was pressed). So, the microcontroller (the

keyboard) wakes up (exit from sleep mode) and then scans the keyboard matrix to determine

which key was pressed (enter working mode). When the microcontroller is still in sleep mode, it

is impossible for the microcontroller to scan the keyboard matrix without being waked up first by

the keystroke signal.

Applicant then argued that Barrus et al. do not disclose the delay resulting from the time it takes

for the device to enter the high power mode is disadvantageous; Barrus et al.'s teaching against

entering the working mode as soon as possible because in Barrus et al. the keyboard will remain

in the working mode as long as there are codes in the queue waiting to be processed and will

enter the low power mode whenever there are no codes to be processed in order to save power;

and one of ordinary skill in the art would not consider modifying the teaching of Barrus et al. to

reduce the inherent delays because Barrus et al. already has a specific method of dealing with

these delays.

In response, applicant's arguments are unfounded because there is nothing on applicant's claims

about codes and queues. And Barrus et al.'s teaching is about entering working mode from sleep

mode but not the other way around. So, one of ordinary skill in the art would found that Barrus

et al.'s invention is an obvious match to the claimed invention of the applicant.

Thus, the rejection is proper and maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1-3, 5-6, 8, 16, 18-20, 22 and 23-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Barrus et al. (US Patent#5410305).

Regarding claim 1, Barrus et al. teach a device (keyboard, 10 of Figs. 1-2 and Fig. 4) having a

first mode (sleep mode) in which the device does not perform a first function (output user's

input) and a second mode (active/working mode) in which the device does perform the first function wherein the device has a touch-entry user input device for user input and is arranged, when ill the first mode, to initiate exit (microcontroller of keyboard wakes up) from the first mode and entry into the second mode at the initiation of a user input (output of OR gate 350 of Fig. 4, where obviously an indiscriminate keystroke signal wakes up the microcontroller) and to perform the first function at the completion of the user input wherein the exit from the first mode occurs before discrimination of the user input (column 10 lines 31-57, column 12 line56 to column 13 line 19, where the microcontroller has to wake up first in order to scan keyboard matrix to determine which key was pressed).

Regarding claim 18, Barrus et al. teach a method of transferring a user input device (keyboard), in response to user input, from a first mode (sleep mode) in which the device is not capable of performing a first function (output user's input) to a second mode (active/working mode) in which the device is capable of performing a first function (determine and output to either 80 of Fig. 1 or 100 of Fig. 2) where there is an inherent delay in the transferring, comprising:

    detecting the initiation of user input and then immediately initiating a transfer from said first mode to said second mode (column 10 lines 31-39, output of OR gate 350 of Fig. 4, where obviously an indiscriminated keystroke signal wakes up the microcontroller);

    discriminating an instantaneous user input from a continuous user input after the transfer from the first mode to the second mode has been initiated (column 10 lines 31-57, column 12 line 56 to column 13 line 19, where one of ordinary skill in the art would obviously recognizes

that the microcontroller of the keyboard has to wake up first in order to scan keyboard matrix

and discriminate a user input);

detecting the completion of the user input and performing the first function (column 10

lines 31-57).

Note the keyboard has already started performing a function (such as to output the input from

user) since it started measuring the relative time period a particular key has been depressed.

Regarding claim 22, Barrus et al. teach a touch-entry user input device having a first mode (sleep

mode) in which the device does not perform a first function (determine/output the

inputted/pressed key) and a second mode (active/working mode) in which the device does

perform the first function wherein the device has means for user input and is arranged, when in

the first mode, to initiate exit (wake up) from the first mode and entry into the second mode at

the initiation of a user input and to perform the first function at the completion of the user input

wherein the exit from the first mode occurs before discrimination of the user input (column 10

lines 31-57, column 12 line 56 to column 13 line 19, as explained in responses to claims 1 and

18).

Regarding claim 25, Barrus et al. teach a device comprising a first mode (sleep mode) in which

the device does not perform a first communications function (Fig. 2, where the keyboard

determines and communicates an output to a computer) and a second mode (active/working

mode) in which the device does perform the first communications function wherein the device

has a touch-entry user input device for user input and is arranged (30 of Fig. 1), when in the first

mode (sleep mode), to initiate exit from the first mode and entry into the second mode (microcontroller wakes up) at the initiation of a user input (output of OR gate 350 of Fig. 4, where obviously an indiscriminate keystroke signal wakes up the microcontroller) and to perform the first communications function at the completion of the user input (microcontroller scans keyboard matrix and outputs determined key) wherein the exit from the first mode occurs before discrimination of the user input (column 10 lines 31-57, column 12 line56 to column 13 line 19, where the microcontroller has to wake up first in order to scan keyboard matrix to determine which key was pressed).

Regarding claim 2, Barrus et al. teach the limitation of claim 1.

Barrus et al. teach comprising a processor (microcontroller) for detecting the initiation of a user input and a processor (microcontroller) for initiating the exit from the first mode (column 10 lines 36-39).

Regarding claim 3, Barrus et al. teach the limitation of claim 1.

Barrus et al. teach the first mode is an energy conservation mode (sleep mode).

Regarding claims 5 and 19, Barrus et al. teach the limitations of claims 1 and 18.

Barrus et al. teach wherein user input is performed by depressing a user depressible key (keyboard input).

Regarding claims 6 and 20, Barrus et al. teach the limitations of claims 5 and 19.

Barrus et al. teach further comprising the step of discriminating an instantaneous depression of

the key from a continuous depression of the key (column 12 line 56 to column 13 line 19).

Regarding claims 23-24, Barrus et al. teach the limitations of claims 5 and 19.

Barrus et al. teach comprising a processor for discriminating an instantaneous depression of the

key from a repetitive depression of the key (column 12 line 56 to column 13 line 19).

Regarding claim 8, Barrus et al. teach the limitation of claim 1.

Barrus et al. teach the entry into the second mode occurs before discrimination of the user input

(column 10 lines 39-41).

Regarding claim 16, Barrus et al. teach the limitation of claim 1.

Barrus et al. teach wherein the time taken to exit from the first mode and enter into the second

mode is less than the time taken to discriminate a user input (column 10 lines and column 12 line

56 to column 13 line 19, wherein the discriminating process obviously takes a certain time period

and comparison).

Regarding claim 26, Barrus et al. teach the limitation of claim 25.

Barrus et al. teach wherein the first communications function comprises transmitting data (Fig. 2

where the keyboard communicates to a computer, column 10 lines 42-57).

2.   Claims 4, 9-10 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Barrus et al. (US Patent#5410305) in view of Wright (US Patent#6912605).

Regarding claim 4, Barrus et al. teach the limitation of claim 1.

But, Barrus et al. do not expressly disclose the second mode is a low power radio communication

mode.

Wright teaches a wireless keyboard having a second mode in a low power radio communication

mode (column 5 lines 43-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the wireless mode taught by Wright into the device of Barrus et al., in

order to provide convenient wireless connection.

Regarding claim 9, Barrus et al. teach the limitation of claim 1.

But, Barrus et al. do not expressly disclose further comprising low power radio transceiver

means and wherein the exit from the first mode is initiated by sending a message using the low

power radio transceiver means.

Wright teaches a wireless keyboard comprising low power radio transceiver means (inherent in

wireless keyboard) and wherein the exit from the first mode is initiated by sending a message

using the low power radio transceiver means (column 5 lines 40-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the wireless mode taught by Wright into the device of Barrus et al., in

order to provide convenient wireless connection.

Regarding claims 10 and 27, Barrus et al. teach the limitations of claims 1 and 26.

Barrus et al. teach transmitting data (Fig. 2, column 10 lines 42-57).

But, Barrus et al. do not expressly disclose further comprising low power radio transceiver means wherein the first function comprises transmitting data using the low power radio transceiver means.

Wright teaches a wireless keyboard comprising low power radio transceiver means wherein the first function comprises transmitting data using the low power radio transceiver means (column 5 liens 40-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the wireless mode taught by Wright into the device of Barrus et al., in order to provide convenient wireless connection.

3.   Claims 11-15 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrus et al. (US Patent#5410305) in view of Kammer et al. (US Patent#6950645).

Regarding claims 11 and 28, Barrus et al. teach the limitations of claims 1 and 26.

But, Barrus et al. do not expressly disclose operating as a Slave in a Bluetooth piconet.

Kammer et al. teach a wireless keyboard operating as a slave in Bluetooth piconet (column 6 line 62 to column 7 line 24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a wireless keyboard operating as a slave in Bluetooth piconet taught by

Kammer et al. into the touch-entry user input device of Barrus et al., in order to provide personal

wireless connection.

Regarding claim 12, Barrus et al. teach the limitation of claim 1.

But, Barrus et al. do not expressly disclose operating in accordance with the Bluetooth Standard

wherein the first mode is the Sniff Mode or Park Mode.

Kammer et al. teach operating in accordance with the Bluetooth Standard wherein the first mode

is the Sniff Mode or Park Mode (column 8 lines 4-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate a wireless keyboard operating in Bluetooth Standard wherein the first

mode is the Sniff Mode or Park Mode taught by Kammer et al. into the touch-entry user input

device of Barrus et al., in order to have power saving mode with wireless connection.

Regarding claim 29, Barrus et al. and Kammer et al. teach the limitation of claim 28.

Kammer et al. teach operating in accordance with the Bluetooth Standard wherein the first mode

is the Sniff Mode or Park Mode (column 8 lines 4-27).

Regarding claim 13, Barrus et al. and Kammer et al. teach the limitation of claim 12.

Kammer et al. further teach the exit from the Sniff Mode is initiated by transmitting a

LMP_unsniff_req message (inherent in column 8 lines 4-19).

Regarding claim 14, Barrus et al. and Kammer et al. teach the limitation of claim 12.

Kammer et al. further teach the exit from the Park Mode is initiated by transmitting a

LMP_accepted message (inherent in column 8 lines 4-19).

Regarding claim 15, Barrus et al. teach the limitation of claim 1.

But, Barrus et al. do not expressly disclose operating in accordance with the Bluetooth Standard

wherein the second mode is the Active Mode.

Kammer et al. teach having wireless devices operating in accordance with the Bluetooth

Standard wherein the second mode is the Active Mode (discoverable mode, column 7 lines 9-19,

column 12 line 59 to column 13 line 35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate Bluetooth wireless usage taught by Kammer et al. into the device of

Barrus et al., in order to provide personal wireless connection.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ZHIYU LU whose telephone number is (571)272-2837. The

examiner can normally be reached on Weekdays: 9AM-5PM.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                /Nay A. Maung/
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March 3, 2008